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FOCI OF ATTACK IN THE PREVENTION OF BLINDNESS IN MISSOURI*

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It is earnestly hoped that a brief discussion of some important factors in the prevention of blindness will be of interest to the general medical profession in Missouri.

One of the criteria of a commonwealth's progress or degree of civilization is the intensity of its efforts to diminish visual handicaps among its constituents. At the present stage of ophthalmic knowledge, it must be conceded that not all the causes of blindness are preventable. Speaking conservatively, however, between 45 per cent and 50 per cent of all blindness in the United States with its attendant anguish, poverty and unhappiness, is definitely unnecessary.

Much has already been accomplished in the fight against preventable blindness; in a large sense, every eye-physician and general practitioner in Missouri has been most efficient in limiting visual handicaps. Credit is very especially due to Mrs. Anna F. Harris, Dr. E. P. North, Dr. Paul D. Mossman, Dr. William H. Luedde, Dr. Meyer Wiener and Mr. S. M. Green, for their persevering and constructive work in this field during the last fifteen years. The highest tribute of praise has been fully earned by the Missouri Association for the Blind, now the St. Louis Society for the Blind, founded in 1910, and the Missouri Commission for the Blind, established in 1915, both of which have always demonstrated that they considered the prevention of blindness their most important function.

The prevention of blindness in Missouri gained a clearer vision of its objective when approximate estimates of the causes of blindness in the State were made. In the last eleven years, during which pensions for indigent blind adults have been granted by this State, it has been possible to draw up three entirely distinct summaries of the pathologic changes leading to loss of vision as certified in the papers of each applicant for this pension. Data on 4780 blind individuals applying for the pension up to June, 1923, and figures on the same individuals reapplying, with the addition of new applicants making 5552 in all, examined between June, 1923, and about December 1, 1923, were computed by the writer; in December, 1926, a third table of the causes of blindness as set down on the application papers was summarized by Dr. Meyer Wiener and Miss Audrey M. Hayden for the 3153 pensioners then on the blind-pension roll. In addition, the causes of blindness are known among 712 juveniles who have been pupils both in the Missouri School for the Blind since 1905 and in the semisighted classes of the St. Louis grade schools since 1924. Finally, from the diagnosis on about 3900 cases studied in the forty-one clinics held over the State under the direction of Dr. Meyer Wiener since January, 1929, much valuable data on the causes of defective vision in Missouri have been obtained.

Twenty years ago, ophthalmia neonatorum was the greatest single cause of blindness in children, accounting for 22 per cent of the pupils entering the Missouri School for the Blind. Through agitation among the physicians of this State and the passage of a law in the Fifty-First General Assembly, 1921, to make compulsory the instillation of 1 per cent silver nitrate into the eyes of new-born infants, the incidence of ophthalmia neonatorum among new pupils entering the Missouri School for the Blind has been decreased to 9 per cent. Nevertheless, blindness from this practically unnecessary cause does still occur; in fact three new pupils of last year have been seriously handicapped from this condition. Since it is thought in some quarters that 1 per cent silver nitrate does infrequently cause an unpleasant chemical conjunctivitis, the use of ½ per cent silver nitrate is advocated as being much more efficacious than that of weak solutions of boric acid, argyrol, neosilvol and mercurochrome, now so frequently substituted.

Trachoma has been the greatest single cause of blindness among adults in Missouri; among the 5552 applicants for pensions for the blind, examined between June and December, 1923, 26.1 per cent had lost useful vision as the result of trachoma. When in 1922 it was realized what a tremendous destruction of sight trachoma was causing in the State, Dr. Emmett P. North, then president of the state board of health, immediately brought the facts to the attention of Dr. Hugh S. Cumming, Surgeon General of the United States Public Health Service, and to the Rockefeller Foundation. As a result, traveling survey clinics were held on a special train furnished by the Frisco Railroad, moving about over the southern part of the State. The counties where help was most urgently needed having thereby been determined, Dr. North in 1923 obtained from the State legislature an appropriation of $25,000 for the biennial period, to which the United States Public Health Service added an equal amount, and the trachoma hospital at Rolla, Mo., was established. Numerous field clinics have also been held from time to time covering the State trachoma belt. The really tre-

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If the obstructing growth cannot be relieved then cecostomy is the operation of choice. This quickly relieves the obstruction and within five to seven days colostomy can be performed.

COLOSTOMY LIFE

The habits and care of the patient with a colostomy will now be given more detailed consideration. Apparently, the British surgeon has felt the need of detailing this situation to the practitioner and to the laity far more often than have we in America. L. P. Gibson, of Cowes, states: "Having collected some first-hand evidence on this condition of colostomy and while not suggesting that the state is to be envied, or is any thing but a calamity, it is certain that the frequently expressed 'I would rather die' opinion is unnecessary and ignorant." He continues in his discussion that his patients are not advised to wear colostomy belts or cups; rather they wear a single cotton binder over a cotton-wool pad, reinforced by several pieces of toilet paper. He mentions in particular one colostomy patient over sixty years of age who works hard, drives his own car, plays two rounds of golf a day and most of the time entirely forgets his disability. Curiously, this patient suffers no more from rheumatism or neuritis, due no doubt to the relief of his bowel stasis. Lockhart-Mummery, the great English physician, has convincingly added his testimony after a painstaking investigation into the subsequent lives of his colostomy patients.

The patient is advised to evacuate his bowels directly following his breakfast. To stimulate this movement, the bowel is irrigated through a No. 20 catheter directly inserted into the colostomy opening and attached to a container of plain water or saline solution. One pint to a quart of water is ordinarily sufficient to stimulate a peristaltic urge. Accompanied by ordinary abdominal straining, the stool and water content can be quickly evacuated into a kidney-shaped basin. A second and slighter urge follows within three to five minutes and the remaining fluid contents are passed out. The toilet of the abdominal wall quickly follows and the patient is ready to apply some form of dressing or colostomy cup, and dress for the day. Binkley, of New York, and Dudley Smith, of San Francisco, have so devised combined irrigating tubes and colostomy cups and bags that the patient is able to sit upon the stool, complete the entire toilet, the washings all escaping through a rubber tube passing between his thighs.

It has been the writer's experience that most patients quickly discard all types of cups and retaining bags and meet the situation quite successfully by wearing a soft cotton pad, lined with a few layers of toilet paper, and a snugly fitting abdominal belt or binder.

CONCLUSIONS

1. A properly performed colostomy on the anterior abdominal wall offers the best solution for the patient where the rectal function is either completely destroyed or has to be removed for carcinoma.
2. This opening should not be too low upon the abdominal wall, should not be placed near the iliac crest nor in the flank but should approach the center of the abdomen.
3. To be certain that before leaving the hospital the patient is thoroughly taught the care of the colostomy which will subsequently devolve upon himself.
4. To make certain that the family physician is likewise familiar with the instructions given the patient for his care and that he is fully conversant with the complications that might arise at any time.
5. Great gentleness should be used in all contacts with the patient.

University Club Building.

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ULCUS VULVAE ACUTUM ASSOCIATED WITH LESIONS OF MOUTH

Max S. Wien and Minnie Oboler Perlstein, Chicago (Journal A. M. A., Feb. 6, 1932), report a case of the combined association of mouth and vulvar ulcers in a girl, aged 17. The lesions occurred in definite cycles and sequence, the mouth lesions being primary in each attack. The mouth lesions conformed clinically to those described as periadenitis mucosa necrotica recurrens and the vulvar lesions conformed to the diagnosis of ulcus vulvae acutum. The occurrence of combined lesions during the period of convalescence following any acute infection and the invariable association of amenorrhea is worthy of note. The authors believe that periadenitis mucosa necrotica recurrens and ulcus vulvae acutum are related conditions resembling each other clinically, occurring in different localities, and dependent on the same fundamental factors or group of factors for their genesis: namely, (1) physical condition of patient; (2) nervous instability; (3) endocrine imbalance.

mendous amount of the most efficient remedial and prophylactic antitrachoma work accomplished by the United States Public Health Service since 1923 was brought in detail to the attention of the Missouri State Medical Association in 1931 by Dr. C. E. Rice, now in charge of all the trachoma work in the United States, and his associate at Rolla, Dr. J. E. Smith. This report was published in our Journal in January, 1932. So effective has this work become that active cases of trachoma are now a great rarity in St. Louis and no cases of trachoma in any stage have been present among the children attending the Missouri School for the Blind in the last five years. In addition, among the 1250 new blind pensioners for 1931, loss of sight was attributed to trachoma in only 18.3 per cent, indicating a definite decrease in incidence.

With the exception of this very active preventive work in the case of ophthalmia neonatorum and trachoma, practically no effort in a concerted or organized way has so far been attempted to influence blindness from any other of the preventable ocular diseases, such as particularly from atrophy of the optic nerve and the hereditary ocular changes. Among pupils at the Missouri School for the Blind, the percentage of those blinded by optic nerve atrophy during the last 26 years has remained around 16 per cent of the entire number in attendance at any one time. In the last five years it has accounted for more blindness at the school than has ophthalmia neonatorum, attaining therefore the first place as a single cause of blindness among children in Missouri. Among blind adults in the State, optic nerve atrophy has been the third highest cause of blindness, destroying the vision in 12 per cent of all blind individuals. In 1931 this percentage remained constant among the 1250 new additions to the pension roll. Since in at least 75 per cent of these cases of optic nerve atrophy, both in children and in adults, syphilis, either congenital or acquired, is the etiologic factor, it surely follows that many cases of syphilis are not being cured, principally of course through lack of cooperation on the part of the patient. Intensive education seems the only remedy.

Hereditary ocular changes have caused a great deal of visual loss among children in Missouri. During the last 26 years a bad heredity has been the cause of seriously impaired sight in 26 per cent of the entire number of pupils at the school for the blind; the 166 children in this category included 54 with hereditary cataract, 32 with hydrophthalmos, 27 with diffuse tapetoretinal degeneration, 27 cases of microphthalmos, 10 of retinitis pigmentosa, 6 of aniridia, 3 of anophthalmos, 3 of hereditary dislocation of the lenses, 3 of keratoconus and 1 case with bilateral coloboma of the optic nerve and iris. Many of these 166 children were related as brothers and sisters, fewer as cousins. One family of hereditary cataract in Missouri has been represented at the Missouri School for the Blind by nine juveniles coming from three generations; only members of the third generation from this family were present in the statistics above. Miss Francia I. Baird, Supervisor of the Prevention of Blindness Department of the Missouri Commission for the Blind has been able from her observations on hereditary blindness over the State, to construct numerous genealogical diagrams of families with hereditary eye conditions. Where three or more generations can be studied valuable data is available to determine the character of the inheritance of these ocular conditions, whether they act as dominant, recessive or sex recessive, and thus to compare findings with A. Franceschetti, of Basel, the German authority on hereditary ocular changes. It was estimated by Miss Elsie Roth, office secretary at the school, that 27 pupils coming from 7 families in the State with hereditary ocular disturbances had cost the State $52,700 for their education.

Twenty-seven states have now legalized sterilization in the case of pronounced and permanent mental impairment. Sterilization is the only remedy to prevent the continuance of these hereditary ocular conditions.

Uveitis as a cause of blindness in Missouri both among children and adults ranks about fifth in importance, producing disabling disturbances of sight in 6 per cent of all the blind of the State. The only point I would protest here, is the past and present rather general failure in Missouri to consider tuberculosis as a possible etiologic factor in uveitis and the apathy in regard to tuberculin, when cautiously administered, as an effective remedy in the majority of cases of tuberculous uveitis.

The amount of blindness from sympathetic ophthalmia in Missouri can be accurately estimated only in those children who have attended the school for the blind. In the last 26 years it has continued to cause seriously defective sight of both eyes in 5 per cent of all the pupils. To prevent at least some of this sympathetic disease, I would strongly urge the early removal of the eyeball after a penetrating injury, if the eye begins to shrink, if it remains irritable and soft two weeks after the injury, or if, at the end of that time, the eye is irritable, without vision, or with imperfect light projection.

Although much more could be said, this will complete a brief description of the accomplishments and present needs in the effort for the prevention of blindness in Missouri. It has been said so many times in this connection that an ounce of prevention is worth a pound of cure, that a few hundreds spent now in the prevention of blindness will later obviate the spending of many thousands in education, special training, welfare and pensions for the blind. The prevention of blindness, however, when all is said, is finally something far above a matter of money; it is our sacred aim as physicians to insure to every human being his inalienable right to enjoy the sunlight and the flowers, and the personal freedom that results from the preserved integrity of the five senses.

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SPINAL ANESTHESIA [*] [†]

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Spinal anesthesia, often called spinal analgesia, with improved technic and better understanding has become one of the safest and most generally applicable of all forms of anesthesia. In no other way can so extensive an analgesia be produced with so small a dose of drug and therefore there is less tissue reaction and toxemia than with other anesthetic drugs. Whatever popularity spinal anesthesia now enjoys was certainly not rapidly developed. It has passed through periods of commendation and then condemnation, but at present it is attaining the general usage and popularity it deserves. That it is not a panacea is not only conceded but emphasized; but that it is often the anesthetic of choice and should be at the command of every competent surgeon will be granted by even the most reluctant. It is no longer in the experimental stage. It will never be discarded again but there will be improvement in the future. Writers upon the subject have ceased to plead for its acceptance and are now pleading for a better understanding, especially of the contraindications which will greatly reduce the incidence of untoward results.

Corning of New York in 1885 produced the first spinal anesthetic, probably unintentionally as lumbar puncture had not been done at that time. He was attempting to produce an effect on the spinal cord by injecting a cocaine solution between the spinous processes. Bier in 1889 produced and reported 8 cases of spinal anesthesia upon himself, his assistant and 6 patients. He used cocaine through l
puncture. Following his publication, ma
tempted spinal anesthesia despite his wa
that many cases would result in fatalitie
to cocaine poisoning. These early bad r
from using a toxic drug, crude techni
with little understanding, form a basis f
present day skepticism among some of o
and revered teachers who remember
unfortunate days and hesitate to try
again. With the appearance of stovain
tropacocaine in 1904, spinal anesthetics
again given with somewhat better result
was with stovaine that Babcock began h
ochal work on the spinal cord. Fro
time, Babcock and others have worked v
with gradually improving results. The
of spinal anesthesia was greatly enhanced
procaine hydrochloride appeared as no
and with it a new era began.

From a physiologic standpoint it mu
understood that the anesthesia is the res
the action of the drug on the nerve roo
not on the spinal cord. The anesthetic sc
bathes the three types of nerve roots wit
responding effects. The anesthetic acti
the posterior roots produces loss of pain
perature, touch and muscle sense. The
on the anterior root produces loss of a
tion, muscular relaxation and abolition
flexes. Blocking these two roots produc
desired effect and is the basis of a long
advantages of spinal anesthesia. Unfort
ly, the sympathetic nerve roots are of
sity also blocked, the ill effects resulting
from being the basis of the untoward
which can occur. Blocking the sympa
causes a vasomotor palsy in the affected
which has been the supposed cause of the
talked of blood pressure drop; this drop
plained on the theory that the palsy ca
splanchnic dilatation that allows the bl
stagnate there thus reducing the volu
blood going to the heart and therefore re
the blood pressure. In a recent article, I
son and North have shown experimentall
the vasomotor palsy is the principal ca
the fall in blood pressure, but it has als
shown that there is another undeter
cause. Blocking the sympathetic also
increased peristalsis and loss of sp
sense.

The advantages of spinal anesthesia
not be listed for the surgeon who has
cessfully used it. Having enjoyed th
vantages, that surgeon is always anxious
it again. The primary requisites of an
thetic are, relief of pain and the prevent
surgical hurt or shock. The secondary

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[*] Read before the St. Louis County Medical Society, April 13, 1932.

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